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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/521,004

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Kentaro Nagata

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EXAMINER

SANDY, ROBERT JOHN

ART UNIT

PAPER NUMBER

3677

MAIL DATE

DELIVERY MODE

06/07/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/521,004	Applicant(s) NAGATA, KENTARO	
	Examiner Robert J. Sandy	Art Unit 3677	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-10 and 12-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

Figures 6, 7, 8A, 8B, and 9 each should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: The written specification fails to explicitly provide a brief description of Figures 5A, 5B, 8A and 8B.

Appropriate correction is required.

Claim Objections

Claims 9 and 18 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. In each of claims 9 and 18, recitation of "wherein the member to be tightened is a protective cover for protecting a joint of a rotary shaft of an automobile" fails further limit the claimed "tightening band" since "a member" is only functionally recited as an intended-use clause in respective independent claims 1 and 2.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 2, 5-9, 14-18, are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. Claim 1 fails to set forth the purpose/function of the “pattern of projections and depressions” with respect to the claimed invention, where recitation of “a pattern of projections and depressions is formed on the surface of each of the band main body, the lever plate, and the lever-plate fixing member” provides no criticality in the claimed invention.

Claims 10 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. The omitted steps are at least **providing** “a band main body including a ring portion formed by bending a metallic elongated band plate and a band protrusion formed by overlapping and fixing by welding a predetermined length of both end portions of the metallic elongated band plate such that the both end portions face each other; a lever plate whose top side is protruded outward from the top of the band protrusion and which is fixed to the band protrusion by being welded thereto at the same time when the band protrusion is formed such that the end side of the lever plate is in contact with the outer periphery of the ring portion of the band main body; and a lever-plate fixing member for fixing the top portion of the lever plate to the band main body by welding, the diameter of the ring portion of the band main body being reduced by tilting the lever plate until the surface of the lever plate is brought into contact with the outer periphery of the ring portion of the band main body while the end side of the lever plate serving as the fulcrum, so as to apply a tightening force to a member to be tightened”.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 5-9, 14, and 18, so far as definite, are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno et al. (U. S. Patent No. 4,701,982) in view of Donley (U. S. Patent No. 4,660,870).

Concerning claims 1, 2, 5, 9, 14, and 18, Masuno et al. ('982) discloses a tightening band (10) comprising: a band main body (12) including a ring portion (16) formed by bending a metallic ("spring steel, stainless steel", col. 2, line 28) elongated band plate (18) and a band protrusion (20) formed by overlapping and welding (i.e., "spot welded", col. 3, line 21) a predetermined length of both end portions of the metallic elongated band plate such that the both end portions face each other; a lever plate (14) whose top side is protruded outward from the top of the band protrusion and which is fixed to the band protrusion by being welded ("spot welded", col. 3, line 21) thereto such that the end side of the lever plate is in contact with the outer periphery of the ring portion of the band main body; and a lever-plate fixing member (38) which is fixed to the band main body by being welded ("spot welded", col. 3, line 36) thereto so as to fix the top portion of the lever plate to the band main body, the diameter of the ring portion of the band main body being reduced by tilting the lever plate until the surface of the lever plate is brought into contact with the outer periphery of the ring portion of the band main body while the end side of the lever plate serving as the fulcrum, so as to apply a tightening force to a member to be tightened. However, Masuno et al. ('982) does not show wherein a pattern of projections and depressions is formed on the surface of each of the band main body, the lever plate, and the lever-plate fixing member; and (concerning claims 9 and 18) the member to be tightened is a protective cover for protecting a joint of a rotary shaft (see Fig. 6) of an automobile.

Donley ('870) teaches an analogous tightening band having a mesh pattern of projections and depressions in the manner defined as "knurling" (108, Fig. 12). Therefore, in view of the

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teaching of Donley ('870), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided a pattern of projections and depressions in the form of knurling as a surface treatment formed on the surface of each of the band main body, the lever plate, and the lever-plate fixing member, since Donley ('870) states having the having the knurling on the inner surface of the clamp band being "to more effectively grip the clamped object. Furthermore, in view of the teaching by Donley ('870), it would have been obvious to one of ordinary skill in the art at the time the invention was made to have provided the knurling to the outer surfaces of each of the band main body, the lever plate, and the lever-plate fixing member, in order to provide a better gripping surface by a user handling the tightening band.

Concerning claims 6 and 15, Matsuno et al. ('982), as modified by Donley ('870), make obvious the claimed tightening band, except for wherein the depth of each depression is 2 μm to 30 μm . It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formed each depression encompassed in the knurling taught by Donley ('870), by having each depression a depth of 2 μm to 30 μm since it is within routine skill in the art to select sizes of structural features of a device for their desired purpose.

Concerning claims 7, 8, 16 and 17, Matsuno et al. ('982), as modified by Donley ('870), make obvious the claimed tightening band, except for including the features wherein the pattern formed on the surface comprises a plurality of types of patterns, and each type of pattern represents identification information of a boot fixing band on which the pattern of the type is formed. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the tightening band of Matsuno et al. ('982), as modified by Donley ('870), to include the features wherein the pattern formed on the surface comprises a plurality of types of patterns in one tightening band, and wherein the pattern formed on the surface comprises a plurality of types of patterns, and each type of pattern represents identification information of a boot fixing band on which the pattern of the type is formed, for the aesthetic design choice, to which the aesthetic design choice does not structurally enhance the structural performance of the tightening band.

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno et al. ('982), as modified by Donley ('870), and further in view of Armbruster et al. (U. S. Patent No. 4,203,020). Matsuno et al. ('982), as modified by Donley ('870), further discloses when fixing for forming the band protrusion, fixing between the band protrusion and the lever plate, or fixing between the band main body and the lever-plate fixing member is performed by welding (as stated above). However, Matsuno et al. ('982), as modified by Donley ('870), does not describe wherein the pattern of projections and depressions is formed at least so that each member to be welded contacts each other at many points inside the diameter of a spot to be welded.

Armbruster et al. ('020) teaches a method of welding two metallic object to one another by providing "a pattern and protrusions 14", for the purpose by which "The points of the protrusions serve to concentrate the current density and the local pressure, causing the nickel layer to melt and insuring the strength of the welded joint" (col. 2, lines 60-63). Therefore, in view of Armbruster's et al. ('020) teaching, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have recognized the additional benefit of having the pattern of projections and depressions representative of the knurled surfaces suggested by Donley ('870), in order to provided stronger spots welds to the tightening band of Matsuno et al. ('982).

Claims 10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsuno et al. ('982), as modified by Donley ('870), and Armbruster et al. (U. S. Patent No. 4,203,020), and further in view of Sheu et al. (U. S. Patent No. 5,025,547) and Jansen et al. (U. S. Patent No. 4,896,402).

Matsuno et al. ('982), as modified by Donley ('870) and Armbruster et al. (U. S. Patent No. 4,203,020), make obvious the claimed tightening band, as set for the above in the Office action. However, Matsuno et al. ('870) does not explicitly describe a method of producing the tightening band, wherein the method comprises: forming the pattern of projections and depressions, the difference between the projections and depressions being 2 μm to 30 μm , on reduction rolls used in at least one of rolling steps of rolling each metallic plate as a base material of the band main body, the lever plate, and the lever-plate fixing member; forming the pattern of

projections and depressions having a depth of 2 μm to 30 μm on at least one of the surfaces of the metallic plate by passing the metallic plate through the reduction rolls; and cutting the rolled base material into plates for the band main body, the lever plate, and the lever-plate fixing member, so as to produce the tightening band by using the cut plates with the pattern for the band main body, the lever plate, and the lever-plate fixing member.

Sheu et al. ('547) teaches a method of making a surface texture on metal strips by reduction rolling demonstrated in Fig. 1. Jansen et al. ('402) makes it known to produce a tightening band (20) by cutting a rolled metal sheet into individual bands (Fig. 15). Therefore, in view of tightening band structure made obvious by Matsuno et al. ('982), as modified by Donley ('870) and Armbruster et al. ('020), and each of the methods taught by Sheu et al. ('547) and Jansen et al. ('402), it would have been obvious to have produced the tightening band of Matsuno et al. ('982) by forming the pattern of projections and depressions, the difference between the projections and depressions being 2 μm to 30 μm , on reduction rolls used in at least one of rolling steps of rolling each metallic plate as a base material of the band main body, the lever plate, and the lever-plate fixing member; forming the pattern of projections and depressions having a depth of 2 μm to 30 μm on at least one of the surfaces of the metallic plate by passing the metallic plate through the reduction rolls; and cutting the rolled base material into plates for the band main body, the lever plate, and the lever-plate fixing member, so as to produce the tightening band by using the cut plates with the pattern for the band main body, the lever plate, and the lever-plate fixing member.

Concerning claim 12, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to have provided the reduction rolls to include a plurality of types of reduction rolls so that the pattern differs from one reduction roll to another, and any reduction rolls can be arbitrarily selected from among the reduction rolls and used in the rolling step, since swapping-out and/or retrofitting manufacturing tooling to accommodate accessory changes of a production run of a product line of articles is a well known expedient in manufacturing where cost are minimized.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert J. Sandy whose telephone number is 571-272-7073. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, J.J. Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



ROBERT J. SANDY
PRIMARY EXAMINER

Robert J. Sandy
Primary Examiner
Art Unit 3677